

**REMARKS**

**Summary Of The Office Action & Formalities**

Claims 1-4 are all the claims pending in the application. By this Amendment, Applicant is amending claims 1 and 3 and adding new claims 5-8. No new matter is added.

Initially, Applicant thanks the Examiner for acknowledging the claim to foreign priority and for confirming that the certified copy of the priority document was received.

Applicant also thanks the Examiner for initialing the references listed on form PTO/SB/08 submitted with the Information Disclosure Statement filed on December 5, 2003.

In addition, Applicant notes that the Examiner has not indicated acceptance of the drawings filed December 5, 2003. Therefore, Applicant requests that the Examiner indicate acceptance of the drawings in the next action.

The prior art rejections are summarized as follows:

1. Claims 1 and 3-4 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Dadafshar (USP 6,420,953) in view of Six et al. (USP 2,220,126).
2. Claim 2 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Dadafshar in view of Six et al. as applied to claim 1 above, and further in view of JP 2973514 B2.

Applicant respectfully traverses.

**Claim Rejections - 35 U.S.C. § 103**

1. *Claims 1 And 3-4 Over Dadafshar (USP 6,420,953) In View Of Six et al. (USP 2,220,126).*

In rejecting claims 1 and 3-4 over Dadafshar (USP 6,420,953) in view of Six et al. (USP 2,220,126), the grounds of rejection state:

Dadafshar discloses a transformer [figures 5-11] comprising:

- a core structure formed of a plurality of core elements [510, 520] having a central projection and two outer leg portions;

- at least one coil disposed around the central projection, wherein the coil form of a plurality of flat conductors having end portions and a ring-like portion, the end portions forming leading terminals of the coil;

- gap formed between the core elements.

wherein the core elements sandwiching the coil therebetween.

Dadafshar discloses the instant claimed invention except for the coil are positions except a position that surround the gap.

Six et al. discloses an induction device comprising:

- a pot core type including core elements [1, 3, 4] with gap [5] formed therebetween and a projection element [1]; and

- a coil [2] disposed in the projection element of the core, wherein the coil disposed at positions except a position that surround the gap.

It would have been obvious to one having ordinary skilled [sic] in the art at the time the invention was made to arrange the coil at positions except a position that surrounds the gap in Dadafshar, as suggested by Six et al., for the purpose of controlling the magnetic flux of the device.

Regarding claim 3, the specific dimension between the leading terminals of the windings would have been an obvious design consideration for the purpose of controlling the inductance.

Office Action at pages 2- 3. Applicant respectfully disagrees.

Claim 1 of the present application sets forth that the transformer has a plurality of windings, wherein each winding includes a ring-like portion. Further, the ring-like portion

comprises a flat wire which is wound in a plurality of turns formed in an overlapping direction of the flat wire. As discussed with respect to a non-limiting embodiment of the specification, windings formed from flat wire provide at least the advantages of providing low resistance due to increased cross-sectional area for conduction and decreasing the size required by the transformer. (*See* specification at page 13, line 1 - page 14, line 4).

In contrast, Dadafshar teaches a transformer wherein the windings are formed either by a spiral trace on a printed circuit board, or a plurality of copper plates which are stacked. (*See* Dadafshar at col. 7, lines 21-33 and col. 7, line 65 - col. 8, line 18). However, Dadafshar says nothing about windings which are formed by a flat wire wound in a plurality of turns formed in an overlapping direction of the flat wire, as claimed.

Moreover, claim 1 additionally sets forth that a gap is formed between the flat surface portion and a top end portion of the first core and second core, respectively. Further, claim 1 recites that the windings are positioned at positions except a position that surrounds the gap. However, Dadfshar is silent with respect to a gap between the first and second cores. (*See* Dadafshar at col. 6, lines 8-48, describing the structure of the core). Indeed, the Examiner fails to identify any portion of Dadafshar to meet these claim limitations.

Further, Applicant submits that Six et al. fails to account for the deficient teaching of Dadafshar. For instance, Six et al. teaches an inductance coil with an air gap between a single coil and an upper core member. (*See* Six et al. at col. 1, line 37 - col. 2, line 8). However, Six et al. suggests nothing regarding the position of windings of a transformer with a plurality of windings, nor does Six et al. provide any suggestion for windings which are formed by a flat

wire wound in a plurality of turns formed in an overlapping direction of the flat wire, as required by claim 1.

Therefore, assuming, *arguendo*, that one would have been motivated to combine Six et al and Dadafshar, the combination would not teach all the claim limitations. Accordingly, Applicant submits that claim 1 is allowable at least because the combination fails to teach all the claim limitations, and reconsideration and withdrawal of the rejection is respectfully requested.

Further, Applicant submits that 3 and 4 are allowable at least by virtue of their dependency from independent claim 1. Thus, withdrawal of the rejection of claims 3 and 4 is requested.

*2. Claim 2 Over Dadafshar In View Of Six et al. As Applied To Claim 1 Above, And Further In View Of JP 2973514 B2.*

In rejecting claim 2 over Dadafshar in view of Six et al. as applied to claim 1 above, and further in view of JP 2973514 B2, the grounds of rejection state:

Dadafshar in view of Six et al. discloses the instant claimed invention except for inclined surfaces formed in the projection element.

JP 2973514 B2 discloses a transformer comprising a core structure including a central projection element [2] having inclined surface [5].

It would have been obvious to one having ordinary skilled [sic] in the art at the time the invention was made to include inclined surfaces in the projection element of Dadafshar, as modified, as suggested by JP 2973514 B2, for the purpose of reducing leakage magnetic flux.

Office Action at page 3.

Applicant submits that claim 3 is allowable at least by virtue of depending from independent claim 1. Accordingly, withdrawal of the rejection of claim 3 is requested.

*New claims*

For additional claim coverage merited by the scope of the invention, Applicant is adding new claims 5-8.

With respect to claim 5, Applicant submits that this claim is allowable at least because the prior art fails to teach or suggest a transformer comprising, *inter alia*, a gap formed between the second core part and a top end portion of the projected portion, wherein windings are positioned at positions on an outer side of the projected portion except a position that surrounds the gap, as defined by the claim. Accordingly, allowance of claim 5 is requested. Further, Applicant submits that new claim 6 is allowable at least by virtue of depending from claim 5.

With respect to claim 7, Applicant submits that this claim is allowable at least because the prior art fails to teach or suggest a transformer comprising, *inter alia*, a plurality of windings, wherein each winding is a flat wire section wound in a plurality of turns formed in an overlapping direction of the flat wire, said plurality of windings surrounding the projected portion of the first core part, as recited by the claim. Accordingly, allowance of claim 7 is requested.

With respect to claim 8, Applicant submits that claim 8 is allowable at least by virtue of depending from claim 1, and allowance of this claim is requested.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the

AMENDMENT UNDER 37 C.F.R. § 1.111  
U.S. Application No. 10/727,567

Attorney Docket No.: Q78637

Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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